

Cost Benefit Analysis 101



Why Cost Benefit?

- ◆ Hallmark of good governance
- ◆ Demonstrate benefits justify expenditures
- ◆ Social net benefits



Review of the Relevant Regulations



Planning Advance Planning Document (PAPD)

- ◆ “A commitment to conduct...cost benefit analysis...” (45 CFR 95.605)
- ◆ Plan to Conduct:
 - Requirements or Needs Assessment
 - Feasibility Study
 - Alternatives Analysis
 - Cost Benefit Analysis



PAPD: The Initial Analysis

◆ Statement of Needs and Objectives

- What do we need?
- Why do we need it?



PAPD: The Initial Analysis

◆ Feasibility Study

- Will the system accomplish our goals?
- Do we have the resources?
- Is the investment warranted?



PAPD: The Initial Analysis

◆ Alternatives Analysis

- Provide detailed descriptions of costs and benefits of status quo and each alternative
- Be reasonable in selection of alternatives
- Make the case for the alternative selected
- Begin building the baseline for cost-benefit measurement and reporting



Implementation Advance Planning Document (IAPD)

- ◆ Must include a Cost-Benefit Analysis
- ◆ Key elements:
 - Statement of needs and objectives
 - Results of feasibility study
 - COST-BENEFIT ANALYSIS
 - Schedule
 - Proposed budget: development and operations



So What is Present Value Discounting?

- ◆ Equalizes comparison of alternatives when expenses and benefits are distributed unequally over time
- ◆ ACF requires use of 7% present value factor in alternatives analysis
- ◆ Present Value Discounting is NOT required once the State has selected its alternative



Initial CBA: Cost Analysis

- ◆ Identify and characterize all costs (use constant dollars)
- ◆ Build each cost profile year by year
- ◆ Prepare systems life cost profile (Baseline)



State of Nirvana: Cost Analysis

- ◆ Non-Recurring: Defined, one-time costs to the project.
- ◆ Recurring: Costs to the project that are incurred periodically or over a set period of time.



State of Nirvana: Cost Analysis

System Life Cost Baseline						
Description	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Non-Recurring	300,000	0	0	0	0	300,000
Recurring	150,000	120,000	100,000	100,000	100,000	570,000
Total Projected	450,000	120,000	100,000	100,000	100,000	870,000

Note: Using Constant Dollars



Initial CBA: Benefit Analysis

- ◆ Identify and characterize all benefits
- ◆ Prepare systems life benefits profile (Baseline)
- ◆ Identify qualitative benefits
- ◆ Verify benefit categories and projections



State of Nirvana: Benefit Analysis

- ◆ Quantitative: E.g., reduced need for clerical staff and file storage, improved staffing utilization, increased collections.
- ◆ Qualitative: E.g., improved benefits integration, improved response times to CA/N reports, automated forms generation, better decisionmaking by social workers.



Time "Savings"

- ◆ Time savings through productivity improvements alone is not a viable benefit.
- ◆ Consider in your analysis what useful purpose was that time savings directed toward.



Benefit Analysis: Types

◆ Identify and characterize all benefits.

Types include:

- Increased collections
- Program cost savings
- System cost savings
- Program cost avoidance
- System cost avoidance
- Qualitative



Benefit 1: Increase Child Support Collections

- ◆ Definition: Increase Child Support Collections
- ◆ Baseline: Based on our current population of 1000. Approx. 75% of foster care population could be referred to child support. 20% of eligible cases are referred and 20% are collected with an average payment of \$76.40 per month.



Benefit 1: Increase Child Support Collections

- ◆ Measurement Plan: Actual collections will be measured. Estimate 75% of Year 3 population of 1000 could still be referred to child support. The automated interface with IV-D will result in 100% referral rate; 20% collected with an average payment of \$76.40 per month.



Benefit 1: Increase Child Support Collections

	Baseline Collections	Expected Year 3 Collections
Child Welfare Population	1,000	1,000
75% Could Be Referred	$1,000 \times .75 = 750$	$1,000 \times .75 = 750$
Cases Referred	$750 \times .20 = 150$	$750 \times 1.00 = 750$
Cases Collected	$150 \times .20 = 30$	$750 \times .20 = 150$
Avg. Monthly Collection	$30 \times \$76.40 = \$2,292$	$150 \times \$76.40 = \$11,460$
Avg. Annual Collection	$\$2,291.70 \times 12 = \$27,504$	$\$11,450.50 \times 12 = \$137,520$
Net Annual Benefit	$\$137,520 - \$27,504 = \mathbf{\$110,016}$	



State of Nirvana: Benefit Analysis

System Life Benefits Baseline						
Description	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Benefit 1	0	0	110,000	110,000	110,000	330,000
Benefit 2	25,000	65,000	70,000	80,000	85,000	325,000
Benefit 3	10,000	15,000	20,000	50,000	70,000	165,000
Benefit 4	0	5,000	15,000	30,000	50,000	100,000
Total Projected	35,000	85,000	215,000	270,000	315,000	920,000

Note: Using Constant Dollars



Initial Cost Benefit Analysis

- ◆ Present total projected costs and benefits
- ◆ Calculate breakeven point



State of Nirvana: Initial Cost Benefit

System Life Cost Profile Baseline						
Description	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Non-Recurring	300,000	0	0	0	0	300,000
Recurring	150,000	120,000	100,000	100,000	100,000	570,000
Total Projected	450,000	120,000	100,000	100,000	100,000	870,000
System Life Benefits Baseline						
Total Projected	35,000	85,000	215,000	270,000	315,000	920,000

Note: Using Constant Dollars



State of Nirvana: Initial Cost Benefit

Projected Breakeven in Year 5

Cumulative Cost Benefit Profile						
Description	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Cumulative Total Projected Benefits	35,000	120,000	335,000	605,000	920,000	N/A
Cumulative Total Projected Costs	450,000	570,000	670,000	770,000	870,000	N/A
Difference	(415,000)	(450,000)	(335,000)	(165,000)	50,000	N/A

Note: Using Constant Dollars



Initial CBA: Submitting the Results

◆ Submission to ACF

- Executive summary with alternatives considered, comparative costs and benefits, and reasons for alternative selected
- Results of the alternatives analysis
- Narrative description of costs and benefits, including how they were derived
- Cost and benefit profile spreadsheets



What if Projected Benefits Will Not Exceed Costs?

- ◆ ACF will not automatically disapprove IAPDs with cost benefit analyses that fail to breakeven.
- ◆ If the system will not breakeven, a State must prove that the measurable outcomes are worth the cost of investment, and that those costs are reasonable.



Cost Benefit Analysis Revisited

Updating the Initial Analysis



Advance Planning Document Update (APDU)

- ◆ Key elements (45 CFR 95.605):
 - “A report which compares the estimated cost-savings from the State’s approved APD to actual cost-benefits to date....”
 - “Once the State begins operation...the cost-savings shall be submitted 2-5 years after statewide operation until the Department determines projected cost savings have been achieved.”



Cost Benefit Measurement

- ◆ How are we doing?
- ◆ Are we doing what we said we would do?
- ◆ Goal: Measure and compare actual costs and benefits of system development, implementation, and operation to the costs and benefits projected during the analysis.



Cost Benefit Measurement

- ◆ Steps in the process include:
 - Identify all costs and benefits
 - Build the profile year by year
 - Compare cost benefits achieved to those projected



State of Nirvana:

Cost Benefit Measurement

Through Year 3: Costs were more than anticipated.

System Life Cost Profile						
Description	Year 1	Year 2	Year 3	Year 4	Year 5	Total To Date
Non-Recurring	350,000	0	0	TBD	TBD	350,000
Recurring	150,000	110,000	110,000	TBD	TBD	370,000
Actual Total Costs	500,000	110,000	110,000	TBD	TBD	720,000
Total Projected	450,000	120,000	100,000	100,000	100,000	870,000
Difference	50,000	(10,000)	10,000	TBD	TBD	50,000



State of Nirvana:

Cost Benefit Measurement

Through Year 3: Benefits were less than expected.

System Life Benefit Profile						
Description	Year 1	Year 2	Year 3	Year 4	Year 5	Total To Date
Actual Benefit Total	10,000	80,000	185,000	TBD	TBD	275,000
Total Projected	35,000	85,000	215,000	270,000	315,000	920,000
Difference	(25,000)	(5,000)	(30,000)	TBD	TBD	(60,000)



Benefit 1: Increased Child Support Collections

◆ Need to explain variance

- The expected increase in IV-D collections fell short of projections due to the impact of policy changes associated with ASFA. The move to more timely TPR resulted in less time for us to establish child support orders.



State of Nirvana: Cost Benefit Measurement

Comparisons			
Description	Actual to Date (through Year 3)	Current Projected (through Year 5)	Baseline of System Life
Total Benefits	270,000	860,000	920,000
Total Costs	720,000	920,000	870,000
Difference	(450,000)	(60,000)	50,000

Current Projections are based on actual costs and benefits through Year 3.



ACF Evaluation of Cost Benefit Measurement

- ◆ Has the State described the probable cause when significant variances from the projected costs and benefits occur?
- ◆ Has the State planned or initiated corrective action to reduce costs or enhance benefits OR has the State changed projections?
- ◆ Has or will the system break even?



CBA Revisions

- ◆ What if initial assumptions about costs and benefits turn out to be wrong?
- ◆ How do you present a substantially modified analysis?
- ◆ ACF will use “reasonable person” standard to evaluate a revised analysis.



Benefit Schema: What to Consider?

	Qualitative	Quantitative
Measurable	OK	OK
Immesaurable	OK	N/A



Benefit Analysis: What to Avoid

- ◆ Avoid common errors such as:
 - Double Counting
 - Counting Sunk Costs
 - Omitting Costs
 - Uneven Application of Cost Categories
 - Productivity Improvements Alone



Green Light

- ◆ Improved collection of IV-D funds
- ◆ Avoid overpayment of IV-A funds to families of children in care
- ◆ More efficient use of less restrictive placement resources
- ◆ Eligibility automation produces staff savings



Green Light

- ◆ Increased recoupment
- ◆ Reduced cost for duplication, mailing, and file storage space
- ◆ Do not have to build CW accounting system, AFCARS system, or CA/N system
- ◆ Do not have to build system to track ASFA outcomes



Green Light

- ◆ Improved access to information for case workers and management reporting
- ◆ Reduced investigation and intervention response time in CA/N cases
- ◆ Expanded recruitment and support for service and placement providers
- ◆ Tool for monitoring contractor performance



Caution

- ◆ Fewer clerical/data entry staff needed
- ◆ Reduced data entry
- ◆ Improved prevention efforts - avoid the costs of child maltreatment
- ◆ Case workers spend less time on case data entry



Wrong Way

- ◆ Avoid AFCARS penalties
- ◆ Transfer of our system saved other State(s) and Federal government money



References

- ◆ Title 45 Public Welfare and Human Services Code of Federal Regulations (CFR), Part 1355 – General,
http://www.access.gpo.gov/nara/cfr/waisidx_05/45cfr1355_05.html
- ◆ Title 45 Public Welfare and Human Services Code of Federal Regulations (CFR), Part 1356 – Requirements Applicable to
http://www.access.gpo.gov/nara/cfr/waisidx_05/45cfr1356_05.html
- ◆ Title 45 Public Welfare and Human Services Code of Federal Regulations (CFR), Part 95 – General Administration – Grant Programs (Public Assistance, Medical Assistance, and State Children's Health Insurance Programs),
http://www.access.gpo.gov/nara/cfr/waisidx_05/45cfr95_05.html



References

- ◆ USDHHS, Administration for Children and Families – *Feasibility, Alternatives, and Cost/Benefit Companion Guide*, July 1993,
<http://www.acf.hhs.gov/programs/cb/systems/sacwis/federal.htm>
- ◆ USDHHS, Administration for Children and Families – *Companion Guide 2: Cost/Benefit Analysis Illustrated for Child Welfare Systems*, May 1996,
<http://www.acf.hhs.gov/programs/cb/systems/sacwis/federal.htm>



Questions or Comments?

